SCANNED, # 14

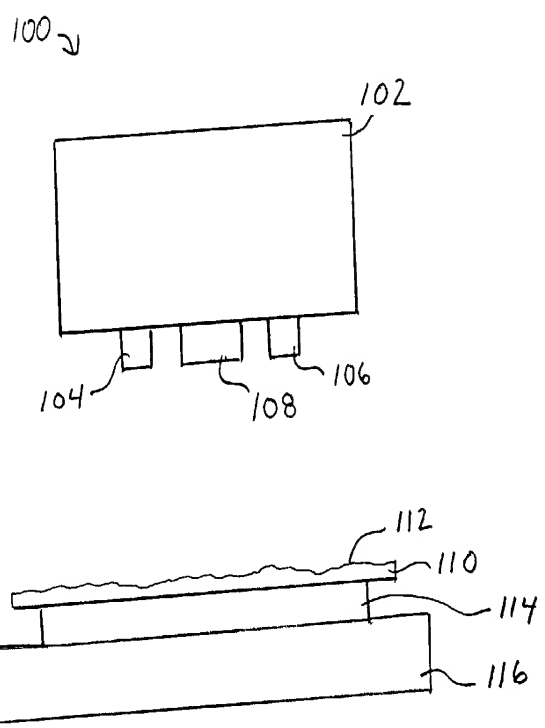


FIG. 1

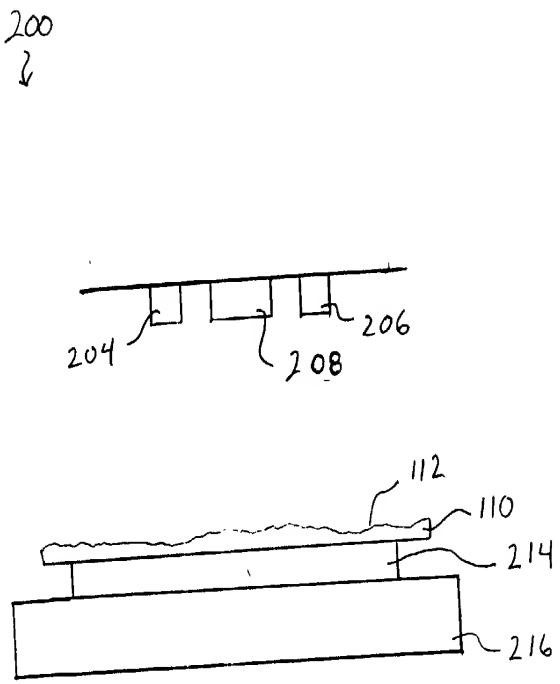


FIG 2

FIG. 3A

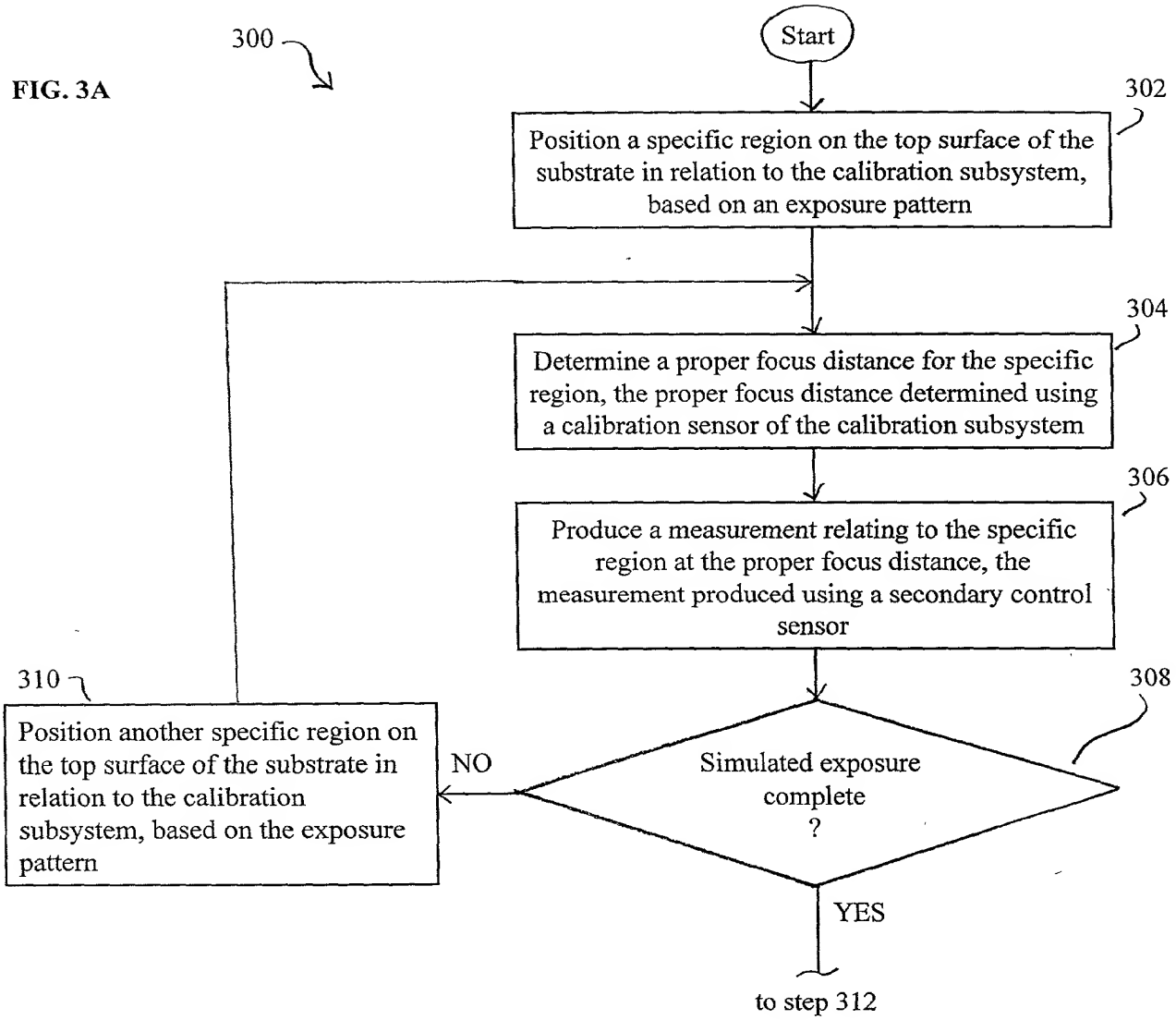
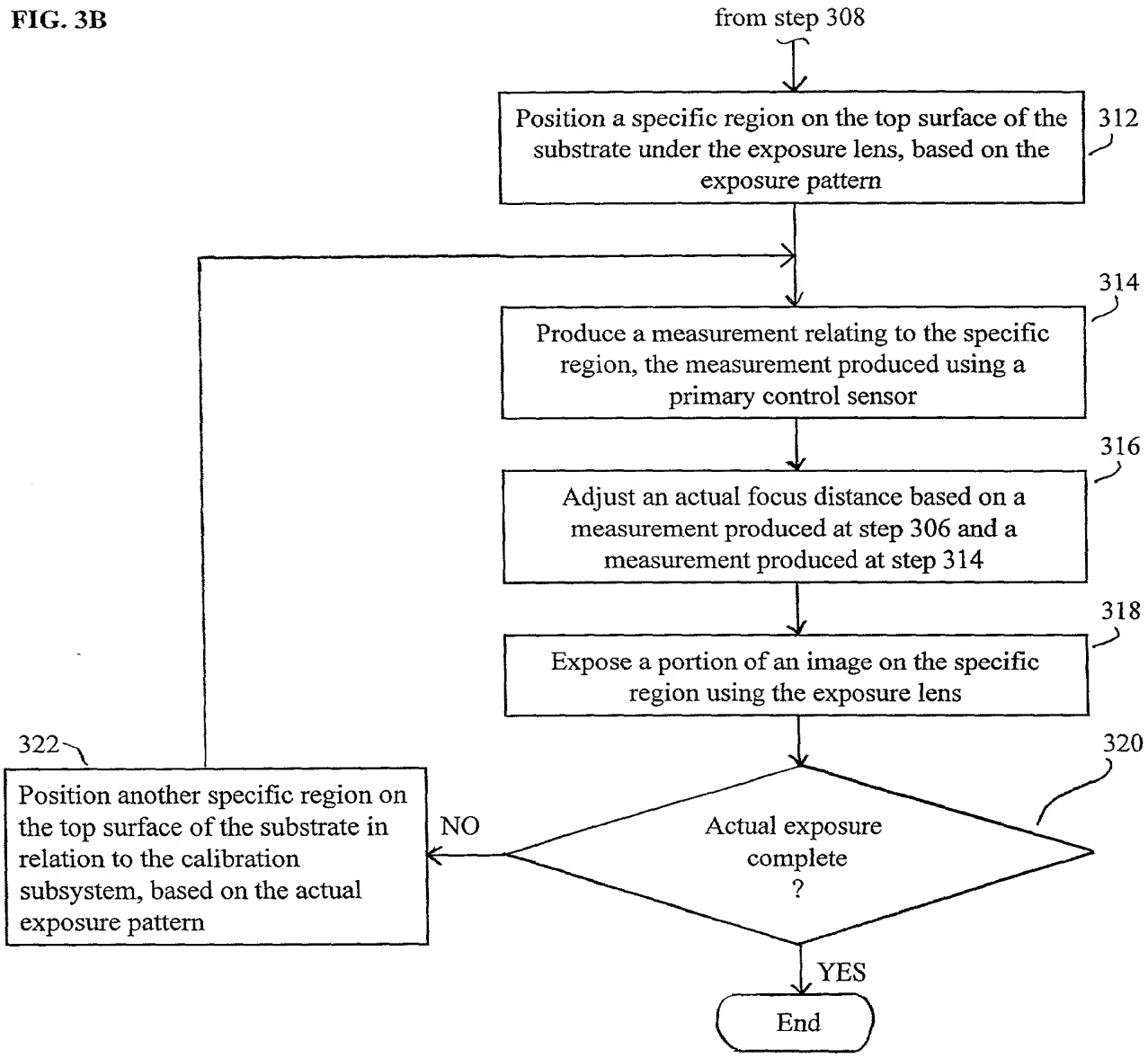

300
Start
302
Position a specific region on the top surface of the substrate in relation to the calibration subsystem, based on an exposure pattern
304
Determine a proper focus distance for the specific region, the proper focus distance determined using a calibration sensor of the calibration subsystem
306
Produce a measurement relating to the specific region at the proper focus distance, the measurement produced using a secondary control sensor
308
Simulated exposure complete ?
NO
310
Position another specific region on the top surface of the substrate in relation to the calibration subsystem, based on the exposure pattern
YES
to step 312

FIG. 3B


from step 308
Position a specific region on the top surface of the substrate under the exposure lens, based on the exposure pattern
312
Produce a measurement relating to the specific region, the measurement produced using a primary control sensor
314
Adjust an actual focus distance based on a measurement produced at step 306 and a measurement produced at step 314
316
Expose a portion of an image on the specific region using the exposure lens
318
Actual exposure complete ?
320
NO
Position another specific region on the top surface of the substrate in relation to the calibration subsystem, based on the actual exposure pattern
322
YES
End

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400

402 X/Y Coordinates	404 Calibration Sensor Value (optional)	406 406a Control Sensor A Value	406b Control Sensor B Value	.....	406n Control Sensor N Value
X_1/Y_1	$Calibration_{1,1}$	$ControlA_{1,1}$ (i.e., x=1,y=1)	$ControlB_{1,1}$		$ControlN_{1,1}$
X_1/Y_2	$Calibration_{1,2}$	$ControlA_{1,2}$ (i.e., x=1,y=2)	$ControlB_{1,2}$		$ControlN_{1,2}$
X_1/Y_3	$Calibration_{1,3}$	$ControlA_{1,3}$	$ControlB_{1,3}$		$ControlN_{1,3}$
. .	. .	. .	. .		. .
X_2/Y_1	.$Calibration_{2,1}$	$ControlA_{2,1}$	$ControlB_{2,1}$		$ControlN_{2,1}$
X_2/Y_2	$Calibration_{2,2}$	$ControlA_{2,2}$	$ControlB_{2,2}$		$ControlN_{2,2}$
X_2/Y_3	$Calibration_{2,3}$	$ControlA_{2,3}$	$ControlB_{2,3}$		$ControlN_{2,3}$
. .	. .	. .	. .		. .
X_3/Y_1	$Calibration_{3,1}$	$ControlA_{3,1}$	$ControlB_{3,1}$		$ControlN_{3,1}$
X_3/Y_2	$Calibration_{3,2}$	$ControlA_{3,2}$	$ControlB_{3,2}$		$ControlN_{3,2}$
X_3/Y_3	$Calibration_{3,3}$	$ControlA_{3,3}$	$ControlB_{3,3}$		$ControlN_{3,3}$
.	.	.	.		.
.	.	.	.		.

FIG. 4